



U. S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: INFORMATION: Updated Guidance for the
Functional Classification of Highways
(Original signed by Mary B. Phillips)

Date: October 14, 2008

From: Mary B. Phillips
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Governmental Affairs (HPL)

Reply to
Attn of: HPPI-20

To: Division Administrators
Resource Center Directors

Introduction

The Highway Performance Monitoring System (HPMS) Reassessment 2010+ resulted in recommendations for the revision of highway functional classifications. Some of the recommended revisions will require additional study in order to provide fully validated, revised functional classification guidance.

The purpose of this memorandum and attachment is to provide interim guidance which may be used in association with Highway Functional Classification: Concepts, Criteria and Procedures, available online at: <http://www.fhwa.dot.gov/planning/fctoc.htm>. Highway Functional Classification may be considered reference material, to be superseded by this memorandum and attachment where applicable. Following completion of additional studies, a complete revision of Highway Functional Classification will be prepared and released.

The conversion of functional classification from the existing schema to the new schema described in Section 2 of the guidance and the coding changes for ramps described in Section 5 are both due in the reporting of 2009 data submitted to Federal Highway Administration (FHWA) in 2010. The adjustment of functional classifications and urban/urbanized boundaries following the 2010 Census should be included in the reporting of 2012 HPMS data reported in 2013. Any functional classification changes resulting from the revision/rewrite of the functional classification guidance would be included in data reported in 2013 and optional for any earlier HPMS submittals.

We recognized that in many States or Metropolitan Planning Offices (MPOs), the process of updating highway functional classification is an ongoing process, with some States just now completing the updates to urban boundaries and functional classification triggered by the 2000 Census. The hope is that by 2012 the 2010 Decennial Census data will be available, and States will use this updated information as they undertake a thorough update of their highway functional classification.

The intended users of this guidance are the State Department of Transportation coordinators, planners and technicians in the areas of functional classification and HPMS, as well as appropriate FHWA staff.

Background

The functional classification of the nation's highways, roads and streets provides important inputs into the HPMS program and into the apportionment of federal funds, such as for the National Highway System (NHS) and Surface Transportation Program (STP). However, functional classification is also used for many other transportation planning and public policy purposes within the States, MPOs, and local communities.

The focus of this interim guidance is on functional classification as it is related to HPMS data reporting requirements and the apportionment process. Other aspects of functional classification will be considered in any future update of Highway Functional Classification. States are expected to report functional classification data consistent with HPMS data requirements. As always, States and local communities may continue to use functional classification as needed according to their specific requirements provided they do not conflict with the HPMS requirements.

HPMS Reassessment Project: Results for Highway Functional Classification

The following subjects are considered in the attachment.

1. Routes Crossing Between Rural and Urban Areas
2. Consolidation of Rural and Urban Designations in Functional Classifications
3. Extent Analysis (mileage and vehicle-miles traveled (VMT) percentage ranges)
4. Clarification: "Future Year" and "Future Route"
5. Ramps and Other Non-mainline Roadways

If you have any comments or need additional information, please contact Paul Svercl at 202-366-5036.

INTERIM GUIDANCE
Highway Functional Classification: Concepts, Criteria and Procedures
Revisions as a Result of the 2010 HPMS Reassessment Project

The following subjects are considered in turn.

1. Routes Crossing Between Rural and Urban Areas
2. Consolidation of Rural and Urban Designations in Functional Classifications
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5. Ramps and Other Non-mainline Roadways

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1. Routes crossing between Rural and Urban Areas

Functional classification should not automatically change at the rural/urban boundary. In consolidating the rural and urban designations within functional classification, the urban boundary itself will remain. 23 USC 101(a)(36)-(37) provides for urban boundaries “to be fixed by responsible State and local officials in cooperation with each other.” However, one of the goals of this interim guidance is to de-emphasize the urban boundary as being determinative of functional classification. That is, functional classifications should be assigned based on actual functional criteria, rather than the location of an urban/rural boundary.

States should follow the guidance provided in the 1991 Addendum of Highway Functional Classification wherever possible, which states:

The Highway Functional Classification provides for rural routes (other than Principal Arterials) to be upgraded to a higher classification level when they cross an urban boundary. Although the principle is sound, rigid application has presented difficulties for some States. Accordingly, this addendum [1991] to the guidelines is intended to provide greater flexibility for deciding on an appropriate place for changing the functional classification when rural routes cross an urban boundary, taking into account changes in traffic conditions, the degree of urban development and other factors. Instead of automatically upgrading the functional classification of a rural route that crosses an urban boundary, the rural classification may be continued inside the urban boundary until there is a more logical and acceptable place for a change.

As of this interim guidance, the practice of automatically upgrading the functional classification of a rural route that crosses an urban boundary should be phased out and eliminated. Upgrading due to actual change in function should be the operative criteria.

Census and Adjusted Urbanized/Small Urban Boundary

Once routes have been assigned the appropriate “rural/urban neutral” functional classification, urbanized and small urban boundaries may be determined in a separate process. States have the option of using Census-defined boundaries only, or they may *adjust* the Census-defined boundaries to be more consistent with transportation planning requirements. The adjusted urbanized/small urban boundaries should be “smoothed” to include areas which are urban in nature but lacking in population density (such as airports, industrial parks, regional shopping centers and other urban attractions).

2. Consolidation of Rural and Urban Designations in Functional Classifications

Existing guidance in Highway Functional Classification makes distinctions in all respects – concepts, criteria, and procedures – between rural and urban classifications. As of this interim guidance, the continuity and connectivity of the basic functional systems is retained and emphasized. However, through HPMS reassessment, there is a reduced emphasis on the rural/urban distinction as exemplified in the functional classification name changes (e.g., Interstate, in place of rural Interstate and urban Interstate). The review and update of urban boundaries will continue to take place, but as a separate, Census-based process (see Section 1).

The differences in the nature and intensity of development between rural and urban areas will cause roads with the same classification to have characteristics that are somewhat different, depending on whether they are in rural, small urban or urbanized areas. Thus, the qualitative narrative in Highway Functional Classification is useful and valid.

The consolidation of rural and urban designations means that some functional classifications that previously existed in only one area-type will now be recognized as valid in all area-types.

- a. Other Freeways and Expressways were previously identified in small urban or urbanized areas only. As of this interim guidance, this classification can be extended into rural areas, where facilities of these functional and design characteristics exist. Beginning in 2010, all existing Other Freeways and Expressways (Principal Arterials) as of December 31, 2009, should be identified and reported by the States. Additional study is needed to determine if the States are consistent in their identification of Other Freeways and Expressways and whether and how greater consistency could be achieved.
- b. Major and Minor Collectors were previously identified in rural areas only, while in small urban and urbanized areas, the corresponding classification was simply, Collectors (urban Collectors). As of this interim guidance, States may continue to classify Major and Minor Collectors in rural areas in the same manner as they have in the past. Beginning in 2010, all existing urban Collectors as of December 31, 2009 are to be reported in HPMS

as Major Collectors. At their option, States may identify Minor Collectors within small urban or urbanized areas from this “pool” of existing Major Collectors*. Additional study is needed to determine what qualitative similarities and differences exist between Minor Collectors in rural areas and those in small urban or urbanized areas.

- c. Information [23 CFR 1.5 and 1.7] about whether the route is in a rural or small urban or urbanized area shall be reported separately in HPMS with a rural-urban designation as well as geo-spatially.

Based on these changes to functional classification, the following revised functional classification codes should be used beginning with the 2009 data, reported in 2010.

Revised HPMS Functional Classification Codes:

- 1 = Interstate
- 2 = Other Freeways and Expressways
- 3 = Other Principal Arterial
- 4 = Minor Arterial
- 5 = Major Collector
- 6 = Minor Collector
- 7 = Local

* The, definition of Federal-Aid Highways in 23 USC 101(a)(5) is unchanged by this revision to functional classification labels. Rural Minor Collectors (or Minor Collectors located in rural areas) will remain excluded by the definition of Federal-Aid Highways (unless on the National Highway System (NHS)), while urban Minor Collectors (or Minor Collectors located in small urban or urbanized areas) will be included in the definition of Federal-Aid Highways. See Section 1 for information as to how rural and urban data will continue to be maintained.

3. Extent analysis (mileage and VMT percentage ranges)

The consolidation of rural and urban designations in functional classifications impacts the validity of the information provided in Highway Functional Classification about the extent of functional systems, both in terms of mileage and VMT. While these percentages were guidelines, additional study is needed to determine how valid the existing extent guidance may be, how it may be adapted to the rural/urban neutral “world,” and what, if any, different extent guidance should be provided in the future. Until additional study is completed, States should adhere to the simplified extent guidance, below, that affects the lane mileage and VMT apportionment factors:

Related to the apportionments on the Surface Transportation Program (STP) and Highway Safety Improvement Programs (HSIP):

All Arterials and Collectors combined – maximum of 35 percent of statewide route mileage. (Rural Minor Collector mileage and VMT does not contribute, but it is included here as “Collectors” because the existing extent guidance does not break out any separate guidance for them.)

All Arterials and Collectors combined – between 70 percent and 80 percent of statewide VMT.

Related to NHS apportionment:

Rural Principal Arterials – maximum of 4 percent of statewide route mileage and between 30 percent and 55 percent of statewide VMT.

Urban Principal Arterials – maximum of 10 percent of statewide route mileage and between 40 percent and 65 percent of statewide VMT.

Although rural and urban Principal Arterials will be consolidated into Principal Arterials, rural and urban data will continue to be created in the HPMS database by combining functional class and rural/urban designation codes.

Note that the extent guidance in Highway Functional Classification is intended to be applied on a **statewide** basis, rather than by county, or by individual urbanized or small urban area. Any future extent guidance resulting from additional study will also be provided on the premise that it is for statewide application.

4. Clarification: “Future Year” and “Future Route”

Future Year

The existing guidance, Highway Functional Classification, contains over 30 references to the phrase, “future year.” In none of these instances does the guidance provide a range of years out to which States may project “future year” classifications, except to say that, “The base for a “future year” population should be the most recent Decennial Census” (page III-2) (or special Census). In practice, most States have used the current year for designating functional classifications. Other States have projected “future year” classifications three to five years out; some have projected out considerably longer.

A wide variability in the use of the “future year” concept has implications for HPMS data consistency across the nation, as well as for federal funding opportunities (mileage eligible for federal assistance and included in the apportionment formulas). In order to improve consistency in this area, it is recommended that States assign functional classification according to the current year.

Future Route

One of the references to a “future year” functional classification plan in Highway Functional Classification includes the following: “it will include, in addition to existing facilities, such projected totally new facilities as will be needed to serve “future year” land use and travel. Some

of this new mileage will consist of new streets in expanding urban areas.” (Page III-1) This is a reference to “future routes.” The “future route” is an individual, unbuilt facility, planned to function at a specific level once built. The 1991 Addendum to Highway Functional Classification recognized that additional guidance was needed for “future routes,” as distinct from “future year” functional classifications. As stated in the 1991 Addendum to Highway Functional Classification:

The manual discusses procedures for conducting a functional classification based on projected facilities and usage for some “future year”; however, the manual does not provide criteria for including future or proposed routes into a functional classification of existing facilities. Because the functional classification will support the designation of the NHS which is expected to include some future routes, this addendum establishes criteria for determining which future routes should be included in the functional classification of existing routes. Future routes should be functionally classified with the existing system if they are included in an approved short range improvement program and there is a good probability that the route will be under construction in the reasonably near future (up to 6 years). Where applicable, the same classification should be given to the future route and to the existing route that it will replace until the future route is constructed.

The “up to 6 years” timeframe given in the preceding paragraph mentions “an approved short range improvement program” but does not specify the Statewide Transportation Improvement Program (STIP). As of this interim guidance, the timeframe in which the “future route” is expected to be under construction should generally be consistent with the STIP timeframe of 4 years or less.

Note that the mileage of a “future route” should not be included in public road mileage or lane-miles or vehicle-miles traveled for apportionment purposes until it is built and open to traffic. In addition, for HPMS reporting purposes, only data about a “future route” which is to become part of the NHS should be reported. At their option, States may propose other “future routes” to be part of their functional classification system, i.e., routes which will be eligible for STP rather than NHS. If using this option, States would be in compliance with the above guidance.

5. Ramps and Other Non-mainline Roadways

Beginning with the reporting of 2009 HPMS data in 2010, data for ramps and other non-mainline roadways **should be reported** for those meeting the ramp criteria described below. As noted, data for these roadways should include functional classification. Additional data requirements for ramps will be specified in the final HPMS Reassessment Report and revised *HPMS Field Manual*.

Ramps

- Associated with grade-separated interchanges
- Turning movement facility that moves traffic between two or more (functionally classified) facilities; may include collector-distributor (CD) roads

- Assigned same functional classification as the highest facility served within the interchange

Note that at this time, there is no change to the status of ramps with respect to public road mileage or lane mileage or vehicle-miles traveled for apportionment purposes; they are not considered mainline and are not included in those public road mileage inventories.

Other Non-mainline Roadways

At their option, States may collect data and assign functional classifications to other kinds of non-mainline roadways. These may include other collector-distributor roads, other turning movement facilities not associated with a grade-separated interchange, and other auxiliary roadways. In general, such roadways within the interchanges should be assigned the same functional classification as the highest facility served. However, since many configurations exist, States may assign the functional classification as they deem appropriate. While data for other non-mainline roadways is not required for HPMS, States have the option of reporting it beginning with the 2009 HPMS data reported in 2010.